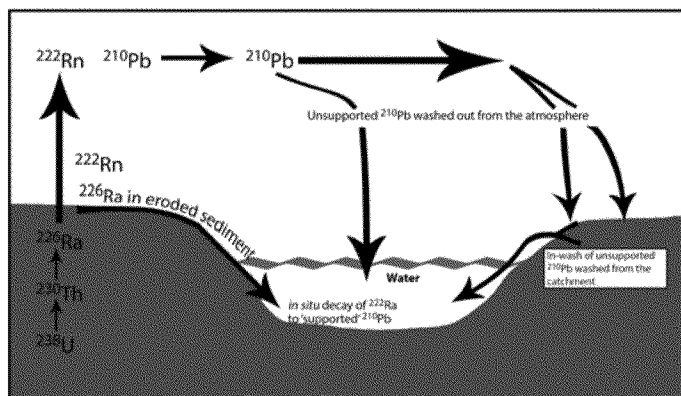


August 27, 2014

This issue addresses community concerns about Lead-210 and corrects misinformation about studies conducted by the U.S. Army Corps of Engineers at sites in Ohio.

Lead-210 is a decay product of Radon-222 and Uranium-238 and has a half-life of 22 years. (Half-life is the time required for one half of the chemically unstable material to degrade into a more stable material.) Elevated Lead-210 in soils is not uncommon due to natural processes, including radon daughter washout from rain events and accumulation over time. As a result, slightly elevated levels of Lead-210 are commonly found in low-lying areas where rain collects and concentrates, such as the drainage ditch at the Bridgeton Municipal Athletic Complex (BMAC). Lead-210 levels up to 20 picocuries per gram (pCi/g) or higher can be found when analyzing soil and sediment samples collected from such areas. Appendix B of EPA's Multi-Agency Radiation Survey and Assessment of Material and Equipment (MARSAME) manual provides more information online at: www.epa.gov/radiation/marssim/docs/marsame/appendixB.pdf

The radon daughter washout process, through which rain naturally collects radon decay products, is a known and well-studied natural process. In fact, Lead-210 accumulation and radiometric dating is an established technique used in geology to determine the age of deposited material. The illustration below depicts the washout process:



As discussed above, levels of Lead-210 up to 20 pCi/g are commonly found in low-lying areas, and do not

Under this recreational scenario (887 pCi/g), a person would have to occupy the drainage ditch for more than 600 hours a year for 30 years to increase their risk of developing cancer by a one-in-a-million chance.

Investigation reports for the Dayton sites are available online: www.lrb.usace.army.mil/Missions/HTRW/FUSRAP/DaytonSites.aspx

www.epa.gov/region7/cleanup/west_lake_landfill